What is claimed is:

1. A driver circuit for driving an electro-optical device which has:

a plurality of pixels;

a plurality of scanning lines;

a plurality of signal lines through each of which a multiplexed data signal for first to third color components is transmitted; and

a plurality of demultiplexers, each of which includes first to third demultiplexing switch elements respectively controlled by first to third demultiplex control signals, one end of each of the demultiplexing switch elements being connected to one of the signal lines and the other end of each of the demultiplexing switch elements being connected to a pixel for the j-th color component ($1 \leqq j \leqq 3$, j is an integer) among the plurality of pixels, the driver circuit comprising:

a gate signal generation circuit which generates a gate signal output to one of the scanning lines by using the first to third demultiplex control signals,

wherein the gate signal generation circuit also generates a shift clock signal based on the first to third demultiplex control signals, shifts a start pulse signal based on the shift clock signal to obtain a shift output, and outputs a signal corresponding to the shift output to one of the scanning lines.

2. The driver circuit as defined in claim 1,

wherein the first, second, and third demultiplex control signals cyclically go active in this order; and

wherein the gate signal generation circuit includes:

a falling edge detection circuit which detects a falling edge of the second or third demultiplex control signal; and

a T flip-flop which outputs the shift clock signal which is inverted based on the

first demultiplex control signal or a signal output from the falling edge detection circuit.

3. The driver circuit as defined in claim 1,

wherein the first, second, and third demultiplex control signals cyclically go active in this order; and

wherein the gate signal generation circuit includes an RS flip-flop which outputs the shift clock signal set by the first demultiplex control signal and reset by the second or third demultiplex control signal.

4. A driver circuit for driving an electro-optical device which has:

a plurality of pixels;

a plurality of scanning lines;

a plurality of signal lines through each of which a multiplexed data signal for first to third color components is transmitted; and

a plurality of demultiplexers, each of which includes first to third demultiplexing switch elements respectively controlled by first to third demultiplex control signals, one end of each of the demultiplexing switch elements being connected to one of the signal lines and the other end of each of the demultiplexing switch elements being connected to a pixel for the j-th color component ($1 \leqq j \leqq 3$, j is an integer) among the plurality of pixels, the driver circuit comprising:

a gate signal generation circuit which generates a shift clock signal based on an input shift clock signal, shifts a start pulse signal based on the shift clock signal to obtain a shift output, and outputs a signal corresponding to the shift output to one of the scanning lines,

wherein the gate signal generation circuit includes:

a shift clock generation circuit which generates the shift clock signal by dividing a frequency of the input shift clock signal into three; and

a demultiplex control signal generation circuit which generates the first to third demultiplex control signals according to the multiplex timing of the data signals for the first to third color components based on the input shift clock signal.

5. The driver circuit as defined in claim 4, further comprising:

first to third pulse width setting registers,

wherein the demultiplex control signal generation circuit includes:

an edge detection circuit which detects a rising edge and a falling edge of the input shift clock signal; and

a counter which counts the edges of the input shift clock signal based on an output signal of the edge detection circuit; and

wherein the first to third demultiplex control signals have a pulse width determined based on a comparison result of the output of the counter and set values of the first to third pulse width setting registers.

6. An electro-optical device comprising:

a plurality of pixels;

a plurality of scanning lines;

a plurality of signal lines through each of which a multiplexed data signal for first to third color components is transmitted;

a plurality of demultiplexers, each of which includes first to third demultiplexing switch elements respectively controlled by first to third demultiplex control signals, one end of each of the demultiplexing switch elements being connected to one of the signal lines and the other end of each of the demultiplexing switch elements being connected to a pixel for the j-th color component ($1 \leqq j \leqq 3$, j is an integer) among the plurality of pixels; and

a gate signal generation circuit which generates a gate signal output to one of

the scanning lines by using the first to third demultiplex control signals,

wherein the gate signal generation circuit also generates a shift clock signal based on the first to third demultiplex control signals, shifts a start pulse signal based on the shift clock signal to obtain a shift output, and outputs a signal corresponding to the shift output to one of the scanning lines.

7. The electro-optical device as defined in claim 6,

wherein the first, second, and third demultiplex control signals cyclically go active in this order; and

wherein the gate signal generation circuit includes:

a falling edge detection circuit which detects a falling edge of the second or third demultiplex control signal; and

a T flip-flop which outputs the shift clock signal which is inverted based on the first demultiplex control signal or a signal output from the falling edge detection circuit.

8. The electro-optical device as defined in claim 6,

wherein the first, second, and third demultiplex control signals cyclically go active in this order; and

wherein the gate signal generation circuit includes an RS flip-flop which outputs the shift clock signal set by the first demultiplex control signal and reset by the second or third demultiplex control signal.

9. An electro-optical device comprising:

a plurality of pixels;

a plurality of scanning lines;

a plurality of signal lines through each of which a multiplexed data signal for first to third color components is transmitted;

a plurality of demultiplexers, each of which includes first to third demultiplexing switch elements respectively controlled by first to third demultiplex control signals, one end of each of the demultiplexing switch elements being connected to one of the signal lines and the other end of each of the demultiplexing switch elements being connected to a pixel for the j-th color component ($1 \leqq j \leqq 3$, j is an integer) among the plurality of pixels; and

a gate signal generation circuit which generates a shift clock signal based on an input shift clock signal, shifts a start pulse signal based on the shift clock signal to obtain a shift output, and outputs a signal corresponding to the shift output to one of the scanning lines,

wherein the gate signal generation circuit includes:

a shift clock generation circuit which generates the shift clock signal by dividing a frequency of the input shift clock signal into three; and

a demultiplex control signal generation circuit which generates the first to third demultiplex control signals according to the multiplex timing of the data signals for the first to third color components based on the input shift clock signal.

10. The electro-optical device as defined in claim 9, further comprising:

first to third pulse width setting registers,

wherein the demultiplex control signal generation circuit includes:

an edge detection circuit which detects a rising edge and a falling edge of the input shift clock signal; and

a counter which counts the edges of the input shift clock signal based on an output signal of the edge detection circuit; and

wherein the first to third demultiplex control signals have a pulse width determined based on a comparison result of the output of the counter and set values of the first to third pulse width setting registers.

11. A method of driving an electro-optical device which has:

a plurality of pixels;

a plurality of scanning lines;

a plurality of signal lines through each of which a multiplexed data signal for first to third color components is transmitted; and

a plurality of demultiplexers, each of which includes first to third demultiplexing switch elements respectively controlled by first to third demultiplex control signals, one end of each of the demultiplexing switch elements being connected to one of the signal lines and the other end of each of the demultiplexing switch elements being connected to a pixel for the j-th color component ($1 \leqq j \leqq 3$, j is an integer) among the plurality of pixels, the method comprising:

generating a shift clock signal based on the first to third demultiplex control signals; and

outputting a signal corresponding to a shift output to one of the scanning lines, the shift output being obtained by shifting a start pulse signal based on the shift clock signal.

12. A method of driving an electro-optical device which has:

a plurality of pixels;

a plurality of scanning lines;

a plurality of signal lines through each of which a multiplexed data signal for first to third color components is transmitted; and

a plurality of demultiplexers, each of which includes first to third demultiplexing switch elements respectively controlled by first to third demultiplex control signals, one end of each of the demultiplexing switch elements being connected to one of the signal lines and the other end of each of the demultiplexing switch

elements being connected to a pixel for the j-th color component ($1 \leqq j \leqq 3$, j is an integer) among the plurality of pixels, the method comprising:

generating the first to third demultiplex control signals according to the multiplex timing of the data signals for the first to third color components based on an input shift clock signal, and generating a shift clock signal by dividing a frequency of the input shift clock signal into three; and

outputting a signal corresponding to a shift output to one of the scanning lines, the shift output being obtained by shifting a start pulse signal based on the shift clock signal.